We claim

1. A compound of formula 1

Formula 1

wherein

 R_1 is C_1 - C_6 alkyl; C_3 - C_7 cycloalkyl; or unsubstituted or optionally substituted phenyl having the phenyl substituents halogen, C_1 - C_6 alkyl, cyano or C_1 - C_3 perfluoroalkyl;

 R_2 is unsubstituted or optionally substituted phenyl having the phenyl substituents cyano; acetyl; or unsubstituted or optionally substituted amino having the amino substituents C_1 - C_6 alkyl, C_3 - C_7 cycloalkyl, or acetyl;

 R_3 is unsubstituted or optionally substituted C_1 - C_6 alkyl or C_3 - C_7 cycloalkyl having the alkyl or cycloalkyl substituents halogen; perfluoroalkyl; unsubstituted or optionally substituted amino having the amino substituents C_1 - C_6 alkyl, C_3 - C_7 cycloalkyl, or acetyl; hydroxyl; C_1 - C_3 alkoxy; protected hydroxyl; carboxyl; or C_1 - C_3 alkoxycarbonyl;

R₄ and R₅ are independently hydrogen; C₁-C₆ alkyl; C₁-C₃ cycloalkyl; or

$$R_6$$
 R_7 R_8 R_{10} R_9

wherein n = 0 or 1 and R_6 , R_7 , R_8 , R_9 & R_{10} are independently selected from hydrogen; halogen; hydroxyl; protected hydroxyl; C_1 - C_6 alkoxy; unsubstituted or optionally substituted C_1 - C_6 alkyl having the alkyl substitutents hydroxyl or protected hydroxyl; unsubstituted or optionally substituted amino having the amino substituents SO_2 R_{11} , COR_{11} , CONH R_{11} , wherein R_{11} is C_1 - C_6 alkyl, or aryl; cyano; acetyl; trifluoromethyl; C_1 - C_6 alkoxycarbonyl; or two successive positions of the phenyl ring substituted by an unsubstituted or optionally substituted methylene dioxy group having the structure

wherein R_{12} is C_1 - C_3 alkyl; with the provisio that when n=0 at least one of R_6 , R_7 , R_8 , R_9 & R_{10} is hydroxyl or protected hydroxyl, with the further provisio that if only one of R_6 , R_7 , R_8 , R_9 & R_{10} is hydroxyl or protected hydroxyl, then at least one of the other substituents is not hydrogen.

wherein Y is

including the tautomers, racemates, pure enantiomers and diastereoisomers, Novides, or solvates of the compound of formula I.

- 2. A compound of claim 1 wherein R_1 is phenyl.
- 3. A compound of claim 1 wherein R_1 is phenyl substituted with one or more halogens or cyano groups.

4. A compound of claim 1 wherein R₁ is phenyl substituted with one or more halogens.

- 5. A compound of claim 1 wherein R_1 is phenyl substituted with one or more fluorine atoms.
- 6. A compound of claim 1 wherein R_1 is 4-fluorophenyl.
- 7. A compound of claim 1 wherein R_2 is phenyl.
- 8. A compound of claim 1 wherein R₂ is phenyl substituted with one or more halogens or cyano groups.
- 9. A compound of claim 1 wherein R₂ is phenyl substituted with one or more halogens.
- 10. A compound of claim 1 wherein R₂ is phenyl substituted with one or more fluorine atoms.
- 11. A compound of claim 1 wherein R_2 is 4-fluorophenyl.
- 12. A compound of claim 1 wherein R_3 is C_1 - C_6 alkyl or C_3 - C_7 cycloalkyl.
- 13. A compound of claim 1 wherein R_3 is 2-methylethyl.
- 14. A compound of claim 1 wherein R_3 is cyclopropyl.
- 15. A compound of claim 1 wherein R_4 and R_5 are independently hydrogen.
- 16. A compound of claim 1 wherein R₄ and R₅ are independently phenyl.
- 17. A compound of claim 1 wherein R₄ and R₅ are independently phenyl substituted with a hydroxyl group and at least one or more halogens or cyano groups.
- 18. A compound of claim 1 wherein R₄ and R₅ are independently phenyl substituted with a protected hydroxyl group and at least one or more halogens or cyano groups.
- 19. A compound of claim 1 wherein R₄ and R₅ are independently phenyl substituted with a methoxy group and at least one or more halogens or cyano groups.

20. A compound of claim 1 wherein R₄ and R₅ are independently phenyl substituted with two or more hydroxyl groups.

- 21. A compound of claim 1 wherein R₄ and R₅ are independently phenyl substituted with two or more methoxy groups.
- 22. A compound of claim 1 wherein R₄ is hydrogen and R₅ is phenyl substituted with a hydroxyl group and at least one or more halogens or cyano groups.
- 23. A compound of claim 1 wherein R₄ is hydrogen and R₅ is phenyl substituted with a methoxy group and at least one or more halogens or cyano groups.
- 24. A compound of claim 1 wherein R₄ is hydrogen and R₅ is phenyl substituted with two or more hydroxyl groups.
- 25. A compound of claim 1 wherein R₄ is hydrogen and R₅ is phenyl substituted with two or more methoxy groups.
- 26. A compound of claim 1 wherein R₁ and R₂ are independently phenyl or phenyl substituted with one or more fluorine atoms, R₃ is C₁-C₆ alkyl or C₁-C₃ cycloalkyl, R₄ and R₅ are independently phenyl substituted with a hydroxyl group and at least one or more halogens or cyano groups.
- 27. A compound of claim 1 wherein R₁ and R₂ are independently phenyl or phenyl substituted with one or more fluorine atoms, R₃ is C₁-C₆ alkyl or C₁-C₃ cycloalkyl, R₄ and R₅ are independently phenyl substituted with a protected hydroxyl group and at least one or more halogens or cyano groups.
- 28. A compound of claim 1 wherein R₁ and R₂ are independently phenyl or phenyl substituted with one or more fluorine atoms, R₃ is C₁-C₆ alkyl or C₁-C₃ cycloalkyl, R₄ and R₅ are independently phenyl substituted with two or more hydroxyl groups.
- 29. A compound of claim 1 wherein R₁ and R₂ are independently phenyl or phenyl substituted with one or more fluorine atoms, R₃ is C₁-C₆ alkyl or C₁-C₃ cycloalkyl, R₄ and R₅ are independently phenyl substituted with two or more protected hydroxyl groups.

30. A compound of claim 1 wherein R₁ and R₂ are independently phenyl or phenyl substituted with one or more fluorine atoms, R₃ is C₁-C₆ alkyl or C₁-C₃ cycloalkyl, R₄ and R₅ are independently phenyl substituted with two or more methoxy groups.

- 31. A compound of claim 1 wherein R₁ and R₂ are independently phenyl or phenyl substituted with one or more fluorine atoms, R₃ is C₁-C₆ alkyl or C₁-C₃ cycloalkyl, R₄ is hydrogen and R₅ is phenyl substituted with a hydroxyl group and at least one or more halogens or cyano groups.
- 32. A compound of claim 1 wherein R₁ and R₂ are independently phenyl or phenyl substituted with one or more fluorine atoms, R₃ is C₁-C₆ alkyl or C₁-C₃ cycloalkyl, R₄ is hydrogen and R₅ is phenyl substituted with a protected hydroxyl group and at least one or more halogens or cyano groups.
- 33. A compound of claim 1 wherein R₁ and R₂ are independently phenyl or phenyl substituted with one or more fluorine atoms, R₃ is C₁-C₆ alkyl or C₁-C₃ cycloalkyl, R₄ is hydrogen and R₅ is phenyl substituted with two or more hydroxyl groups.
- 34. A compound of claim 1 wherein R₁ and R₂ are independently phenyl or phenyl substituted with one or more fluorine atoms, R₃ is C₁-C₆ alkyl or C₁-C₃ cycloalkyl, R₄ is hydrogen and R₅ is phenyl substituted with two or more protected hydroxyl groups.
- 35. A compound of claim 1 wherein R₁ and R₂ are independently phenyl or phenyl substituted with one or more fluorine atoms, R₃ is C₁-C₆ alkyl or C₁-C₃ cycloalkyl, R₄ is hydrogen and R₅ is phenyl substituted with two or more methoxy groups.
- 36. A compound of claim 1 wherein R₁ and R₂ are independently selected from the group consisting of phenyl, monoflurophenyl and difluorophenyl, R₃ is C₁-C₆ alkyl or C₁-C₃ cycloalkyl, R₄ is hydrogen and R₅ is phenyl substituted with two or more hydroxyl groups.
- 37. A compound of claim 1 wherein R₁ and R₂ are independently selected from the group consisting of phenyl, monoflurophenyl and difluorophenyl, R₃ is C₁-C₆ alkyl or C₁-C₃ cycloalkyl, R₄ is hydrogen and R₅ is phenyl substituted with two or more protected hydroxyl groups.

38. A compound of claim 1 wherein R₁ and R₂ are independently selected from the group consisting of phenyl, monoflurophenyl and difluorophenyl, R₃ is C₁-C₆ alkyl, R₄ is hydrogen and R₅ is phenyl substituted with two or more methoxy groups.

- A compound of claim 1 wherein R₁ and R₂ are independently selected from the group consisting of phenyl, monoflurophenyl and difluorophenyl, R₃ is C₁-C₃ cycloalkyl, R₄ is hydrogen and R₅ is phenyl substituted with two or more hydroxyl groups.
- 40. A compound of claim 1 wherein R₁ and R₂ are independently selected from the group consisting of phenyl, monoflurophenyl and difluorophenyl, R₃ is C₁-C₃ cycloalkyl, R₄ is hydrogen and R₅ is phenyl substituted with two or more protected hydroxyl groups.
- A compound of claim 1 wherein R₁ and R₂ are independently selected from the group consisting of phenyl, monoflurophenyl and difluorophenyl, R₃ is C₁-C₃ cycloalkyl, R₄ is hydrogen and R₅ is phenyl substituted with two or more methoxy groups.
- 42. A compound of claim 1 wherein R₁ is 4-fluorophenyl or 3,4-difluorophenyl and R₂ is phenyl, R₃ is C₁-C₆ alkyl or C₁-C₃ cycloalkyl, R₄ is hydrogen and R₅ is phenyl substituted with two or more hydroxyl groups.
- A compound of claim 1 wherein R₁ is 4-fluorophenyl or 3,4-difluorophenyl and R₂ is phenyl, R₃ is C₁-C₆ alkyl or C₁-C₃ cycloalkyl, R₄ is hydrogen and R₅ is phenyl substituted with two or more protected hydroxyl groups.
- 44. A compound of claim 1 wherein R₁ is 4-fluorophenyl or 3,4-difluorophenyl and R₂ is phenyl, R₃ is C₁-C₆ alkyl or C₁-C₃ cycloalkyl, R₄ is hydrogen and R₅ is phenyl substituted with two or more methoxy groups.
- 45. A compound of claim 1 wherein R₁ is phenyl and R₂ is 4-fluorophenyl, R₃ is C₁-C₆ alkyl or C₁-C₃ cycloalkyl, R₄ is hydrogen and R₅ is phenyl substituted with two or more hydroxyl groups.

46. A compound of claim 1 wherein R₁ is phenyl and R₂ is 4-fluorophenyl, R₃ is C₁-C₆ alkyl or C₁-C₃ cycloalkyl, R₄ is hydrogen and R₅ is phenyl substituted with two or more protected hydroxyl groups.

- 47. A compound of claim 1 wherein R_1 is phenyl and R_2 is 4-fluorophenyl, R_3 is C_1 - C_6 alkyl or C_1 - C_3 cycloalkyl, R_4 is hydrogen and R_5 is phenyl substituted with two or more methoxy groups.
- 48. A pharmaceutical composition comprising one or more compounds of claim 1.
- A pharmaceutical composition, useful as hypocholesteromic agent, comprising a hypocholesteromic effective amount of the one or more of the compounds claim 48.
- A pharmaceutical composition, useful as hypocholesteromic agent, comprising a hypocholesteromic effective amount of 7-[3-(2,4-dimethoxyphenylcarbamoyl)-5-(4-fluorophenyl)-2-(1-methylethyl)-4-phenyl-pyrrol-1-yl]-3R, 5R-dihydroxy-heptanoic acid calcium salt with a pharmaceutically acceptable carrier.
- A pharmaceutical composition, useful as hypocholesteromic agent, comprising a hypocholesteromic effective amount of 7-[3-(2-methoxy-4-hydroxyphenylcarbamoyl)-5-(4-fluorophenyl)-2-(1-methylethyl)-4-phenyl-pyrrol-1-yl]-3R, 5R-dihydroxy-heptanoic acid calcium salt with a pharmaceutically acceptable carrier.
- 52. A pharmaceutical composition, useful as hypocholesteromic agent, comprising a hypocholesteromic effective amount of 7-[3-(2,4-dihydroxyphenylcarbamoyl)-5-(4-fluorophenyl)-2-(1-methylethyl)-4-phenyl-pyrrol-1-yl]-3R, 5R-dihydroxyheptanoic acid calcium salt with a pharmaceutically acceptable carrier.
- A pharmaceutical composition, useful as hypocholesteromic agent, comprising a hypocholesteromic effective amount of 7-[2-cyclopropyl-3-(2,4-dimethoxyphenylcarbamoyl)-5-(4-fluorophenyl)-4-phenyl-pyrrol-1-yl]-3R, 5R-dihydroxy-heptanoic acid calcium salt with a pharmaceutically acceptable carrier.
- 54. A pharmaceutical composition, useful as hypocholesteromic agent, comprising a hypocholesteromic effective amount of 7-[3-(2,4-dimethoxyphenylcarbamoyl)-

4,5-diphenyl5-(4-fluorophenyl)-2-(1-methylethyl)-pyrrol-1-yl]-3R, 5R-dihydroxy-heptanoic acid calcium salt with a pharmaceutically acceptable carrier.

- A pharmaceutical composition, useful as hypocholesteromic agent, comprising a hypocholesteromic effective amount of 7-[4,5-bis(4-fluorophenyl)-3-(2,4-dimethoxyphenylcarbamoyl)-2-(1-methylethyl)-pyrrol-1-yl]-3R, 5R-dihydroxyheptanoic acid calcium salt with a pharmaceutically acceptable carrier.
- A pharmaceutical composition, useful as hypocholesteromic agent, comprising a hypocholesteromic effective amount of 7-[3-(3,5-dimethoxyphenylcarbamoyl)-5-(4-fluorophenyl)-2-(1-methylethyl)-4-phenyl-pyrrol-1-yl]-3R, 5R-dihydroxyheptanoic acid calcium salt with a pharmaceutically acceptable carrier.
- A pharmaceutical composition, useful as hypocholesteromic agent, comprising a hypocholesteromic effective amount of 7-[3-(3,4-dimethoxyphenylcarbamoyl)-5-(4-fluorophenyl)-2-(1-methylethyl)-4-phenyl-pyrrol-1-yl]-3R, 5R-dihydroxy-heptanoic acid calcium salt with a pharmaceutically acceptable carrier.
- A pharmaceutical composition, useful as hypocholesteromic agent, comprising a hypocholesteromic effective amount of 7-[4,5-bis(4-fluorophenyl)-2-cyclopropyl-3-(2,4-dimethoxyphenylcarbamoyl)-pyrrol-1-yl]-3R, 5R-dihydroxy-heptanoic acid calcium salt with a pharmaceutically acceptable carrier.
- A pharmaceutical composition, useful as hypocholesteromic agent, comprising a hypocholesteromic effective amount of 7-[5-(3,4-difluorophenyl)-3-(2,4-dihydroxyphenylcarbamoyl)-2-(1-methylethyl)-4-(4-fluorophenyl)-pyrrol-1-yl]-3R, 5R-dihydroxy-heptanoic acid calcium salt with a pharmaceutically acceptable carrier.
- 60. A pharmaceutical composition, useful as hypocholesteromic agent, comprising a hypocholesteromic effective amount of 7-[2-cyclopropyl-5-(3,4-difluorophenyl)-3-(2,4-dihydroxyphenylcarbamoyl)- 4-(4-fluorophenyl)-pyrrol-1-yl]-3R, 5R-dihydroxy-heptanoic acid calcium salt with a pharmaceutically acceptable carrier.
- 61. A pharmaceutical composition, useful as hypocholesteromic agent, comprising a hypocholesteromic effective amount of 7-[5-(3,4-difluorophenyl)-3-(2,4-

dihydroxyphenylcarbamoyl)-2-(1-methylethyl)-4-phenyl-pyrrol-1-yl]-3R, 5R-dihydroxy-heptanoic acid calcium salt with a pharmaceutically acceptable carrier.

- 62. A pharmaceutical composition, useful as hypocholesteromic agent, comprising a hypocholesteromic effective amount of 7-[5-(3,4-difluorophenyl)-3-(2,4-dimethoxycarbamoyl)- 4-(4-fluorophenyl)-2-(1-methylethyl)-pyrrol-1-yl]-3R, 5R-dihydroxy-heptanoic acid calcium salt with a pharmaceutically acceptable carrier.
- A pharmaceutical composition, useful as hypocholesteromic agent, comprising a hypocholesteromic effective amount of 7-[2-cyclopropyl-5-(3,4-difluorophenyl)-3-(2,4-dimethoxycarbamoyl)- 4-(4-fluorophenyl)-pyrrol-1-yl]-3R, 5R-dihydroxy-heptanoic acid calcium salt with a pharmaceutically acceptable carrier.
- 64. A pharmaceutical composition, useful as hypocholesteromic agent, comprising a hypocholesteromic effective amount of 7-[5-(3,4-difluorophenyl)-3-(2,4-dimethoxycarbamoyl)-2-(1-methylethyl)-4-phenyl-pyrrol-1-yl]-3R, 5R-dihydroxy-heptanoic acid calcium salt with a pharmaceutically acceptable carrier.
- 65. A method of inhibiting cholesterol biosynthesis in a patient in need of such treatment by administering a pharmaceutical composition as defined by claim 78.
- 66. A method of inhibiting cholesterol biosynthesis in a patient in need of such treatment by administering a pharmaceutical composition as defined by claim 79.